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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,409	04/27/2001	Yoichi Seki	43877-115	7036

7590

07/31/2002

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EXAMINER

PHAM, LEDA T

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,409

Applicant(s)

SEKI ET AL.

Examiner

Leda T. Pham

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 1.133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-929)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claim 1 - 7 in Paper No. 8, filed on 7/2/02 is acknowledged. Since applicant did not provide any traversal arguments to the restriction requirement, the response is considered as election without traverse; therefore, the election/restriction is made FINAL.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it includes improper language such as "comprises" (first line in the abstract page). Correction is required. See MPEP § 608.01(b).

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 1, "coil shaft" is lack of antecedent basis in the specification and also in drawing.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 – 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the subject matter recited as "coil shaft" is insufficient antecedent basis. In light of the specification subject matter recited "coil shaft" is understood as "core".

Claims 2 – 7 are rejected since they depend on claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Twaalfhoven et al (U.S. Patent No. 4,906,878) in view of Chitayat (U.S. Patent No. 4,749,921).

Twaalfhoven teaches a linear motor (figure 6) with a plurality of coils (225) arranged in a line in a direction of movement, each coil having an associate coil shaft (220) said coil shafts being perpendicular to the direction of motion (figure 9), and a flat cooling tube (210) but he did not teach said cooling tube having a cross section elongated in a direction parallel to the coil shafts and folds into which said coils are adapted to engage, said cooling tube meandering inside the plurality of coils.

Chitayat teaches a linear motor (figure 8) having a plurality of coils (102) and a flat cooling tube (134), wherein said cooling tube having a cross section elongated in a direction

parallel to the coil shafts and folds into which said coils are adapted to engage, said cooling tube meandering inside the plurality of coils for supporting the coils and dissipating coil heat during operation.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the structure of the cooling tube in Twaalfhoven's linear motor coil assembly as taught by Chitayat. Doing so would support the coils and dissipating coil heat during operation.

Referring to claim 3, Twaalfhoven teaches the linear motor coil assembly wherein the flat cooling tube comprises a plurality of round pipes for passing coolant, said pipes being aligned and attached in a direction parallel to the coil shafts (figure 6).

Referring to claim 4, Twaalfhoven teaches the linear motor coil assembly wherein the flat cooling tube has interleaved folds at least equal in number to the number of coils (figure 6).

Referring to claim 5, Twaalfhoven teaches the linear motor coil assembly wherein the elongated cross section of the flat cooling tube is the same as the length of the coils in an axial direction (figure 6).

Referring to claim 6, Twaalfhoven teaches the linear motor coil assembly comprising Cores (220), divided for each coil, around which the coils are wound (figure 6).

Referring to claim 7, Chitayat teaches the linear motor coil assembly comprising a base plate (13) the cores being fixed to the base plate in a line generally parallel to the direction of motion (figure 1 -3).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Twaalfhoven and Chitayat as applied to the base claims above, and further in view of Nieves et al. (U.S. Patent No. 5,323,079).

The combination of Twaalfhoven and Chitayat references substantially discloses the claimed invention, except for the added limitations of the flat cooling tube has a plurality of clearance holes for passing coolant.

Nieves teaches a half-coil configuration for stator having a cooling tube with a plurality of hole for passing coolant and said holes being formed in a direction parallel to the coil shafts.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make a cooling tube having a plurality of holes as taught by Nieves for the purpose of passing coolant.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (703) 305-4864. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9176 for regular communications and (703) 305-1341 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

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Art Unit: 2834

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LTP
July 29, 2002

Leda T. Pham
Examiner
Art Unit 2834



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